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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/759,920	01/12/2001	Wayne Kelly	MCA-489 US	2777

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MYKROLIS CORPORATION
129 CONCORD ROAD
BILLERICA, MA 01821-4600

16
EXAMINER

MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/759,920

Applicant(s)

KELLY ET AL.

Examiner

Krishnan S Menon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11 and 58-78 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11 and 58-78 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claims 11 and 58-78 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 11 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Pall US 4,617,124.

Pall teaches a method of filtration of liquids comprising selecting a fluid having pH about 4 and containing contaminants, forming one or more porous filter having pore size within 0.1 and 10 microns (see abstract; col 12 lines 25-30) and having a surface which is substantially neutral (examples). (Please note that the instant application defines substantially neutral as having a zeta potential between -10 and 10 mV: see page 6 of the specification)

2. Claims 58-63, 69-72, 74, 78 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pall et al (US 4,431,545).

Pall (545) teaches a process for filtering a fluid containing charged particles comprising filtering through filters having nominal pore size between 0.1 and 10 microns and having zeta potential between 0 and 5 mV. (abstract, col 1 lines 15-24, col 2 lines 20-27: zeta potential less than 20 mV (absolute); col 3 line 25-col 4 line 15) as in claim 58. The membrane surface can be substantially neutral as in claim 59: instant application discloses zetapotential^{tail} as between -10 and 10 mV for 'substantially neutral' in page 6; zeta potential less than 20 mV in the ref encompasses this range of 'substantially neutral'. LRV of at least 3 as in claim 60 and 61(see abstract). Neutral surface

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is inherent in one or more of the filters as in claim 62 (col 2 lines 20-27: small zeta potential).

Formed by surface modification as in claim 63 (col 4 line 40-col 5 line 20; col 8 line 55 – col10 line 25). Filter material is a polyoefin, or polyethylene as in claim 69 - 71 (col 8 lines 38-55). Two or more filters of different IEP as in claim 72 (see abstract). Treating with acrylic acid as in claim 74 (col 8 lines 50-55). LRV of at least 3 for particle diameters less than the pore dia as in claim 78 (col 13 lines 35-51).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 64,65 and 75-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pall (545) in view of Mayhan (US 4,311,573).

Pall (545) discloses all the elements of instant claims as in claim 58. Instant claims add further limitations of the photoinitiator and cross-linking or grafting modification to the filter surface. Mayhan (573) teaches such modifications (abstract, col 6 lines 18-35, examples 4,5). It would be obvious to one of ordinary skill in the art at the time of invention to use the Mayhan (573) teachings to modify the surface of the Pall (545) filters as alternate but equivalent hydrophilic surface product for equivalent function because Mayhan (573) teaches these methods to improve the hydrophilicity of the membrane (abstract).

2. Claims 66 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pall (545) in view of McRay (US 5,582,725).

Pall (545) teaches all the limitations of claim 58 but does not disclose ceramics or metals as the filter media as in instant claims. McRay (725) discloses ceramics and metals as filter media (col 2:20-33). One of ordinary skill in the art at the time of invention could chose metal or ceramic materials as alternate but equivalent to the materials in Pall (545) teachings for the filters, and the metals could be stainless steel, etc., because they give increased filtration pressure resistance.

3. Claim 67 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pall (124) in view of Pall (US 4,430,479).

Pall (545) teaches all the elements of claim 17 as in claim 1 above, except the cellulosic materials for the filter. Pall (479) teaches using cellulosic filter for microporous membranes (col 1 lines 44-53). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Pall (479) in the teachings of Pall (545) to provide a hydrophilic surface (Pall 545: col 8 line 68).

4. Claim 73 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pall (545) in view of Pall (US 4,617,124).

Pall (545) teaches all the limitations of claim 58. Claim 73 adds further limitation of filters being treated with monomers like acrylamide, which Pall (545) does not teach, but Pall (124) teaches. It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Pall (124) in the teaching of Pall (545) for cross-linking as taught by Pall (124).

Response to Arguments

Applicant's arguments filed 6/18/03 have been fully considered but they are not persuasive with respect to claim 11. Claim 11 does not have 0 - 5 mV limitation to overcome Pall (124).

Applicant's arguments with respect to newly submitted claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 703-305-5999. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 703-308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Krishnan Menon
Patent Examiner

Walker
W. L. WALKER
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